

ELECTRO-MOTIVE DIVISION
General Motors Corporation
LaGrange, Illinois 60525
February 11, 1974

AGENDA

covering

READING COMPANY
TEN (10) MP15 LOCOMOTIVES
EMD ORDER A-74741

I. GENERAL

General Motors Locomotive Specification 8097-5 covering the basic 1500 horsepower replacement MP15 locomotive model, is amended by mutual agreement to include options and modifications detailed below.

II. LOCOMOTIVE OPTIONS AND MODIFICATIONS

A. AIR SYSTEM

1. Air Brakes

Pope Ramer Road type 26L brake schedule with "F" control valve, with the following features and modifications:

- a. Provision for service application, including P2A valve and PC switch.
- b. Safety control from Vapor 720 alertor. *msd 281.00 Int. Field*
- c. Overspeed control with PC knockdown provided.
 - 1) Overspeed control set for 67 mph.
- d. Provision for compatible operation with locomotives equipped with 6BL brakes not provided.
- e. Other air brake modifications:
 - 1) Independent brake valve pressure set for 45 psi.
 - 2) Removable offset independent brake valve handle.
 - 3) Removable automatic brake valve handle.
 - 4) Conductor's brake valve in cab provided basically.
 - 5) Brake pipe located on engineer's side of coupler, both ends, with Sloan ball type vented angle cocks.

2. Air Compressor

- a. Basic 3-cylinder water cooled WBO compressor.

6 MV 2 A Valve in place Dual ported Cut off Cock 34.00

A. AIR SYSTEM

2. Air Compressor (Continued)

- b. Air compressor synchronization provided with dual contact pressure switch.
- c. Filter is basic Farr Pamic.

3. Gauges and Fittings

- a. Basic 4-1/2" air gauges with black face.
- b. Basic Salem test fittings at gauges.
- c. Basic Salem test fitting in line to compressor control switch.

4. Main Reservoir

a. Filters

Basic dirt collector replaced by Salem 824 centrifugal filters located after the No. 1 and No. 2 main reservoirs,, filter air for the auxiliaries and the air brake, respectively.

b. Drain Valves

Salem 880 automatic drain valves on both main reservoirs. Basic manual drain valves on both main reservoirs retained. *316.00

c. Actuation of filters and drain valves

Blow-down of filters and automatic drain valves is actuated by Salem 872 timer.

5. Warning Devices

a. Bell

Basic application.

b. Horn

Basic single chime horn located on forward cab wall.

6. Other Air System Modifications

- a. Main reservoir pressure gauge on compressor control panel deleted.

B. SANDING

1. Control

- a. Basic inboard-outboard sanding.
- b. Basic electric control only. Assignment of trainline control wires covered under C.3.b. below.
- c. Manual sanding only is provided.
- d. Automatic sanding from brake valve initiated emergency provided basically.
- e. Switches
 - 1) Manual sanding switch is basic non-latching type. An optional indicating light is provided.
 - 2) Lead axle sanding switch is not provided.

2. Sand Traps and Related Devices

- a. A total of eight ^{Charge 273 Power} Salem 573-2 sand traps is provided.

3. Sand Box

- open* — a. Capacity (note) Inure in Sand Box and cost 150.00 more
- open* — Basic sand box capacity of 15 cubic feet per end.

C. MULTIPLE UNIT CONTROL

*8053.00
Per Unit*

Multiple unit control is provided. The following modifications/features are provided:

1. Provision for Emergency

- a. A-1 charging valve, including two #8 vent valves, control the following functions:
 - 1) Power knockdown from any emergency.
 - 2) Automatic sixty-second timed sanding from any *82.00* emergency.
 - 3) Brake pipe break-in-two protection.

2. Cables

- a. ^{one} ~~Two~~ twenty-seven point EMD jumper cables, nine feet long. *provided basically*

C. MULTIPLE UNIT CONTROL

2. Cables (Continued)

- b. Storage rack for ^{one} ~~second~~ cable located in hood for second jumper cable.
- c. Reading Company to advise mode of shipment for X extra jumper cable.

3. Receptacle

- a. Single twenty-seven point EMD receptacle at each end.
- b. Pin assignments same as on prior 73673 Order No. _____.

4. Provision for Manual Transition

Modification to permit operation of manual transition units in consist not required.

5. Air End Connections

- a. Raised (road type) and duplexed air end connections.
- b. MU hoses at both ends on one side of coupler only.
- c. Two-pipe MU for compatible operation with 26L, 26NL, *no add on* and 24RL equipped units.

6. Other Multiple Unit Modifications

D. DYNAMIC BRAKES

Dynamic brakes not applicable to this locomotive model.

E. ELECTRICAL CONTROL MODIFICATIONS

1. Transmission

Motors are permanently connected in series-parallel.
One step of traction motor shunting provided as modification.

2. Batteries

All units have Exide MS-280 batteries.

3. Ground Relay Reset

Basic manual reset only.

9/26/66
Auto Transition backward & forward.

E. ELECTRICAL CONTROL MODIFICATIONS

4. Traction Motor Modifications

a. Traction motor lockouts

Provision is made basically to lock out both motors on either truck.

b. Other traction motor modifications.

F. ENGINE MODIFICATIONS

1. Filters

a. Primary (carbony) filters.

1) Disposable carbony filters provided basically.

b. Engine air filters

~~Oil bath panel~~ type provided basically.

2. Oil Pan

Responsible HAF
Basic oil pan, providing 165 gallon capacity.

3. Engine Protection

Low water-high crankcase pressure engine shutdown device provided basically.

4. Spark Arrester Manifold

Engine exhaust manifold incorporates spark arrester manifold with retention trap, basically.

5. Engine Turning Jack

None required.

6. Fuel Oil Preheater

Not provided.

G. TRUCKS

Complete RS3 trucks, including 752 motors, supplied by Reading Company in accordance with Section 10, MP15 locomotive specifications 8097-5.

H. CAB MODIFICATIONS

1. Cab Seats

a. Basic complement of two slide-rail-mounted cab seats with backrests, but without armrests.

H. CAB MODIFICATIONS

1. Cab Seats (Continued)

- b. Two spring loaded fold-up observer's seats (no back or arm rests), wall mounted at rear of cab on each side per Reading Drawing 32409, one per side. Location subject to railway approval. *Each side 2 arm rests \$39.00*

2. Water Cooler

Complete application of Vortacool-air operated (with filter). (Includes spare bottle and cup dispenser.) *\$718.00*

3. Speed Indicator/Recorder

Open.

4. Temperature Control

Basic full electric cab heat (8-6KW) with two forced air units and two side wall mounted strip heaters.

5. Cab Flooring

Basic linoleum covering plywood base. *\$274.00 Lamelux Composite*

6. Awnings

None provided.

7. Rain Deflectors

Rain deflectors on cab roof above side windows. *\$29.00 per Unit*

8. Doors, Windows, Glass

*AS1 - PVC (upset) - 138.00 R Unit
AS2 - Sealed In*

9. Cab Controls

a. Basic single control station.

b. Controller

Standard EMD "two-handle" arrangement.

10. Ammeter

Load indicating ammeter provided. *167.00*

I. RADIO

- 1190 AM
Complete application of Motorola Micor model R43RTH-10DAA 4-channel voice communications system. Radio application is complete except for the transmitter/receiver and the handset, which EMD arranges to have shipped directly from vendor to customer. Frequency assignments are as follows:

I. RADIO (Continued)

Channel 1 ----- 160.350 MHz
Channel 2 ----- 160.260 MHz
Channel 3 ----- 160.935 MHz
Channel 4 ----- 161.490 MHz

The following components are furnished and applied by EMD:

Mounting Rack ----- IMB-1 *Model 11112007*
Control Head ----- 19CA-1 *TEN 61058*
Antenna Excaliber ---- 1/50F *TV3 61122*
Filter ----- 6-FL-1

3,060 pull-in

J. CARBODY

1. Hood Arrangement

- a. The long hood end of the locomotive is considered the front.
- b. A stenciled "F" is located on the side sill near the end of each side to identify that end as the front.

2. End Arrangement

a. No. 1 (front) end.

- 1) Basic pilot/footboard assembly.
- 2) Sidesteps
Optional 19 inch clearance.

b. No. 2 (rear) end.

- 1) Basic pilot/footboard assembly.
- 2) Sidesteps
Optional 19 inch clearance.

c. Coupler/draft gear

- 2600 pull-in*
- 1) *MS-485-6A* draft gear and "E" coupler *and* ~~without~~ alignment control, at both ends.
 - 2) ~~Coupler stops provided in order to limit coupler swing to 17° either side of centerline.~~

J. CARBODY (Continued)

3. Lights

The basic complement of lights, specifically including twin sealed beam headlights at both ends.

4. Fire Extinguishers

Basic complement, consisting of two 20 lb. Ansul dry powder extinguishers, one in the cab, the other in the engine compartment.

5. Toilet

Complete application of Vapor stainless steel New-Matic toilet with stainless steel fittings and partition.

6. Lifting and Jacking Devices

a. Jacking pad/cable sling

43²⁰⁰ Basic arrangement only, consisting of one combination sling/jacking pad welded to the underframe side sill, near the longitudinal bolster center.

b. Supplemental lifting eyes

None provided.

7. Locomotive Weight

Nominal loaded weight including all modifications and supplies is 248,000 pounds. The standard manufacturing tolerance may result in a $\pm 2,500$ pound variation from the nominal weight. Variation between trucks does not exceed 2,500 pounds.

8. Clearance

a. Height

Locomotive height is limited to 15' 6".

9. Cooling System

10. Handrails/Walkways

187⁰⁰ Underframe mounted hand rails, basic deleted.

11. Drains

12. Other Carbody Modifications

K. FUEL TANK

1. Capacity

1400 Optional fuel tank provides 1400 gallon capacity.

2. Filler Pipes

One filler pipe located on each side of tank.

3. Gauges

2600 a. ~~Simmonds D-6 dial-type gauge, engineer's side only,~~
~~replaces basic sight glasses.~~

b. One eight-inch fill gauge adjacent to each filler pipe,
i.e., total of two.

4. Automatic Fuel Fill Adapters (Shutoff Device)

Wauson K3000 Positive Fill

512 Snyder automatic fuel fill adapter applied to each filler pipe.

5. Other Fuel Tank Modifications

L. STYLING AND PAINTING

In accordance with drawings prepared by EMD and approved by Reading Company. The following are specifically included:

1. Front End Identification

The front of the locomotive is identified as such with a stencilled "F" applied to the side sill on both sides.

2. ACI Labels

Not provided.

3. Number Boxes

Number panels are of fiberglass construction and include white numerals on black background.

4. Polyurethane Paint

Not required. Basic DuPont acrylic lacquer specifically required.

L. STYLING AND PAINTING (Continued)

5. Identification

Road and serial numbers are as follows:

<u>Road Numbers</u>	<u>Serial Numbers</u>
<u>2771</u> through <u>2780</u>	74741-1 through 74741-10

6. Scotchlite/Scotchcal

7. Other Styling Modifications:

- Hood access door stenciled "Jumper Cable Inside."
- Road numbers stenciled on cab wall.
- "Safety Always" stenciled on top step at all four corners.
- Fuel tank capacity stenciled at fillers.

M. SHIPMENT

1. Consignment and Routing

In accordance with written instructions furnished by railroad.

2. Operating Supplies

Locomotive is shipped with full complement of Arco GL Supreme lube oil. *Placed in fuel*

N. DRAWINGS

- Standard set of reproducible sepias. Wire running list.
- Half-size Mylar of the following:
 - Physical schematic and cable drawing.
 - Schematic air piping.
- Clearance outline drawing provided reflecting Reading modifications.
- Copy of air brake schedule provided.

Charles D Austin

C. D. Austin
Sales Engineering

SPECIFICATIONS MEETING
EMD-READING COMPANY
Wednesday, February 13, 1974
9:30 AM
Office of Chief Mechanical Officer
Reading, Pa.

In Attendance:

Messrs. J F Greenip, District Manager - EMD
C D Austin, Sales Engineer - EMD
J J Butler, Chief Mechanical Officer - Reading Co.
D C Lingle, Mech. Supt. Locomotive Equipment - Reading Co.
J B Fister, Manager Locomotive Shops - Reading Co.
F R Ellis, Asst. to CMO, Safety, Air Brakes & Train Hdlg. - Reading Co.
C C Quell, Chief Engineer Equipment & Facilities - Reading Co.
J E Kramer, Mechanical Supt. Staff - Reading Co.
R B Anders, General Road Foreman - Reading Co.